

[INCH-POUND]

A-A-59226

May 18, 1998

SUPERSEDING

ZZ-H-451G

January 13, 1984

COMMERCIAL ITEM DESCRIPTION

HOSE ASSEMBLY, NONMETALLIC, FIRE FIGHTING, WITH COUPLINGS

The General Services Administration has authorized the use of this commercial item description for all federal agencies.

1. SCOPE. This commercial item description (CID) covers woven-jacketed rubber, or latex- or rubber-coated, fabric- or thermoplastic resin-lined fire fighting hoses with couplings. Class A hose is intended for use on pumping engines and in places where service conditions require additional protection against wear by the extra jacket. Types I and II, class B hose is intended for use with fire hydrants, stand-pipes, reels, and places where abrasion of the jacket is not considered severe. Type III, class B hose is intended for general use and for use on fire fighting equipment. Hoses covered by this CID may be used for water purification equipment and for the conveying of potable water when the Food and Drug Administration (FDA) 21 CFR 177.2600 requirements have been met.

2. CLASSIFICATION. Fire hose shall be of the following types, classes, and sizes, as specified (see 7.2 and 7.6):

- Type I - Natural thread jacket.
- Type II - Combination natural thread and synthetic thread jacket.
- Type III - Synthetic thread jacket.

- Class A - Double jacketed.
- Class B - Single jacket.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data which may improve this document should be sent to: Commanding Officer (Code 15E2), Naval Construction Battalion Center, 1000 23rd Avenue, Port Hueneme, CA 93043-4301, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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- Size 1.5 - 1.5-inch (38 millimetre (mm) minimum inside diameter.
- Size 1.75 - 1.75-inch (44 mm) minimum inside diameter
- Size 2.0 - 2.0-inch (51 mm) minimum inside diameter (type III, class B only).
- Size 2.5 - 2.5-inch (66 mm) minimum inside diameter.
- Size 3.0 - 3.0-inch (76 mm) minimum inside diameter (types I, II, and III, class A).
- Size 3.5 - 3.5-inch (89 mm) minimum inside diameter (types I, II, and III, class A).
- Size 4.0 - 4.0-inch (102 mm) minimum inside diameter (types I and II, classes A and B).
- Size 4.5 - 4.5-inch (114 mm) minimum inside diameter (type I, class A, and type III, classes A and B).
- Size 6.0 - 6.0-inch (152 mm) minimum inside diameter (type III, class A only).

3. SALIENT CHARACTERISTICS.

3.1 Service pressures. Service pressures of hoses shall be as specified (see 7.2).

3.2 Construction. The hoses shall meet the requirements of the National Fire Protection Association (NFPA) Standard 1961.

3.2.1 Hose lining. The lining for types I and II hose shall consist of a solid rubber compound or a fine count fabric coated with latex or rubber. Type III hose lining shall consist of a solid rubber compound or thermoplastic resin compound. The lining shall be of uniform thickness of standard commercial quality. When specified, (see 7.2), the inner rubber liner shall be so compounded as to ensure its conformance with the requirements of FDA 21 CFR 177.2600. The supplier shall submit a certificate attesting that the compound conforms to the above stated regulations.

3.2.2 Jacket impregnation. When specified (see 7.2), the outer jacket shall be impregnated with synthetic rubber.

3.2.3 Type I, class B. The color of the fire hose shall be as specified (see 7.2).

3.2.4 Inside diameter. The inside diameter of the hose shall be not less than the nominal specified size except that the size 2.5 shall have an inside diameter of not less than 2.563 inches (65 mm).

3.2.5 Outside diameter. Unless otherwise specified (see 7.2), the outside diameter of the hose shall be at the option of the manufacturer.

3.2.6 Length. Hose shall be furnished in the length specified (see 7.2).

3.3 Couplings and gaskets. Unless otherwise specified (see 7.2), each length of hose shall be fitted with a set, one male and one female, of couplings. When specified (see 7.2), both couplings shall be either male or female. Unless otherwise specified (see 7.2), couplings shall have American National Fire Hose (NH) Screw Threads. Each set of type A, style 1 couplings shall be provided with three rubber gaskets having the same temperature characteristics as the lining of the type of hose with which it is used. One gasket shall accurately fit the internally threaded swivel of

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the coupling, and one not less than 0.18-inch (5 mm) in thickness, shall be placed under the end of each expansion ring. When coupling is made up snugly as in service, the gasket shall not be compressed to the extent that it projects beyond the inside surface of the coupling and into the waterway.

3.4 **Burst pressure test.** Hoses, with couplings attached, shall be capable of withstanding the burst test pressures specified in table I, when tested in accordance with NFPA 1961.

TABLE I. Burst test pressures.

Type	Class	Size	Burst pressure psig (kPa (gage))
I and II	A	Sizes 1.5, 1.75, 2.5, 3, and 3.5	600 (4 136)
I	A	Sizes 4 and 4.5	500 (3 447) ^{1/}
II	A	Size 4	600 (4 136)
III	A	Sizes 1.5, 1.75, 2.5, 3, and 3.5	900 (6 205)
III	A	Sizes 4.5 and 6	600 (4 136)
I and II	B	Sizes 1.5, 1.75, and 2.5	500 (3 447)
I and II	B	Size 4	300 (2 068)
III	B	Sizes 1.5, 1.75, 2, and 2.5	600 (4 136)
III	B	Size 4.5	200 (1 379)

^{1/} Hose lying straight only.

3.5 **Mildew resistance (types I and II).** When specified (see 7.2), types I and II hose jackets, and rubber-coated fabric lining if used, shall be treated for mildew resistance in accordance with NFPA 1961. The fungus treatment shall have no detrimental effect on the physical properties of the jacket or lining.

3.6 **Marking.** Marking shall be in accordance with NFPA 1961. Hose having rubber lining meeting the FDA requirements of 21 CFR 177.2600 shall have the following additional marking: "APPROVED FOR USE WITH POTABLE WATER."

3.7 **Workmanship.** Jacket shall be well, evenly, and firmly woven and as free from unsightly defects, dirt, knots, lumps, and irregularities of twist as is consistent with good manufacturing practice. The waterway surface of the lining shall be free from pitting, corrugations, or other irregularities or imperfections. Hose shall be free of defects which may affect appearance or serviceability.

4. REGULATORY REQUIREMENTS.

4.1 **Materials.** The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR). Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this commercial item description are to be new and fabricated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to

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virgin raw materials. Unless otherwise specified, none of the above shall be interpreted to mean that the use of used or rebuilt products are allowed under this commercial item description.

4.2 Metric products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within specified tolerances using conversion tables contained in the latest version of ASTM SI-10 (IEEE/ASTM SI-10) and all other requirements of this commercial item description including form, fit and function are met. If a product is manufactured to metric dimensions and those dimensions exceed the tolerances specified in the inch-pound units, a request should be made to the contracting officer to determine if the product is acceptable. The contracting officer has the option of accepting or rejecting the product.

5. QUALITY ASSURANCE PROVISIONS.

5.1 Product conformance. The products provided shall meet the salient characteristics of this commercial item description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market. The government reserves the right to require proof of such conformance.

6. PACKAGING. The preservation, packing, and marking shall be as specified in the contract or order.

7. NOTES.

7.1 Source of documents.

7.1.1 The Federal Acquisition Regulation (FAR) and Code of Federal Regulations (CFR) are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

7.1.2 ASTM Standard is available from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

7.1.3 IEEE Standard is available from the Institute of Electrical and Electronics Engineers (IEEE), IEEE Service Center, 445 Hoes Lane, PO Box 1331, Piscataway, NJ 08855-1331.

7.1.4 NFPA Standards are available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269-9101.

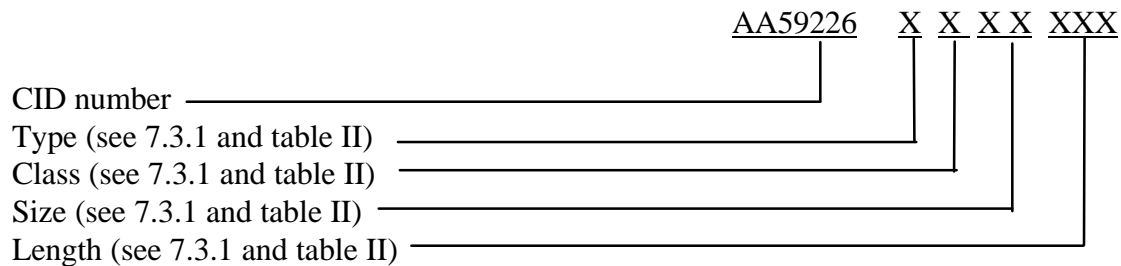
7.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number, and date of this commercial item description.
- b. Type, class, and size of hose required (see 2.).
- c. Service pressure of hoses (see 3.1).
- d. When the inner rubber liner is required to conform to Federal FDA (see 3.2.1).

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- e. When the outer jacket is to be impregnated with synthetic rubber (see 3.2.2).
- f. Color of hose (see 3.2.3).
- g. When the outside diameter of the hose is to be other than at the option of the manufacturer (see 3.2.5).
- h. Length of hose required (see 3.2.6).
- i. When each length of hose is not to be fitted with a set, one male and one female, of couplings (see 3.3).
- j. When both couplings are to be either male or female (see 3.3).
- k. When couplings are to have other than NH threads (see 3.3).
- l. When types I and II hose jackets and rubber-coated fabric linings are to be treated for mildew resistance (see 3.5).

7.3 Part Identification Number (PIN). The following part identification numbering procedure is for government purposes and does not constitute a requirement for the contractor. The PINs to be used for items acquired to this description are created as follows:



7.3.1 Type, class, and size. The type, class, and size of hoses (see 2.) are converted to a numeric code (see table II). The length is the number in feet of the hose. An example of the PIN is as follows:

AA59226 1 A 2.5 50

The above PIN identifies a type I, class A, size 2.5, with a length of 50 feet.

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TABLE II. Type, class, and size of hoses to PIN codes.

Hose type, class and size	Code
Type I	1
Type II	2
Type III	3
Class A	A
Class B	B
Size 1.5	1.50
Size 1.75	1.75
Size 2.0	2.00
Size 2.5	2.50
Size 3.0	3.00
Size 3.5	3.50
Size 4.0	4.00
Size 4.5	4.50
Size 6.0	6.00

7.4 Supersession data. This commercial item description replaces Federal Specification ZZ-H-451G, dated January 13, 1984.

7.5 Classification cross reference. Classifications used in this commercial item description (see 2.) are identical to those found in the superseded Federal Specification ZZ-H-451G, except for types. Differences between the classification of the types used in this commercial item description and ZZ-H-451G are as follows:

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Type I - Natural thread jacket

Type I - Cotton jacket

Type II - Combination natural thread and synthetic thread jacket

Type II - Cotton polyester jacket

Type III - Synthetic thread jacket

Type III - Polyester jacket

7.6 Subject term (key word) listing.

Fire hose

Rubber

Thermoplastic resins

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MILITARY INTERESTS:

Custodians:

Navy - YD1

Air Force - 99

Review Activities:

Navy - CG, SH

Air Force - 84

DLA - CC

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - FSS

Preparing Activity:

Navy - YD1

(Project 4210-0512)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER
A-A-59226

2. DOCUMENT DATE (YYMMDD)
980518

3. DOCUMENT TITLE

HOSE ASSEMBLY, NONMETALLIC, FIRE FIGHTING, WITH COUPLINGS

4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME *(Last, First, Middle Initial)*

b. ORGANIZATION

c. ADDRESS *(Include Zip Code)*

d. TELEPHONE *(Include Area Code)*
(1) Commercial
(2) AUTOVON
(if applicable)

7. DATE SUBMITTED
(YYMMDD)

8. PREPARING ACTIVITY

a. NAME

BERNADETTE ROSE

b. TELEPHONE *Include Area Code)*

(1) Commercial 805-982-5464 (2) AUTOVON 551-5464

c. ADDRESS *(Include Zip Code)*

COMMANDING OFFICER, NCBC CODE 15E2T
1000 23RD AVENUE
PORT HUENEME, CA 93043-4301

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DEFENSE QUALITY AND STANDARDIZATION OFFICE
5203 Leesburg Pike, Suite 1403, Falls Church, VA 22401-3466
Telephone (703) 756-2340 AUTOVON 289-2340